

BOTH BATTERY TYPE AND ENGINE TYPE OF WAGONS POPULAR

SPECIALISTS' WORK
IMPROVES PARTS

Perfection in Each Small Unit in Car
Brought Out by Tests in
Practical Use.

By G. A. Gemmer, of the Gemmer Manufacturing Company.

The parts manufacturer has had his share in the rapid development of the automobile industry. His work began at the time when twenty miles an hour was considered a dangerous speed on the road, when if an automobile would go a few miles without stopping for some adjustment it was considered good enough to rank with the best. Due in some degree to his efforts, stock cars are now built capable of going thousands of miles with the bonnet sealed or that may be driven in a race five hundred miles at seventy-four miles an hour without mechanical adjustment.

This perfection in these units the parts manufacturer supplies has been brought about, first, by specialization, the concentration of the force of an entire organization upon one or at most a very few articles; second, by co-operation with his customers, making use of their suggestions for improvement, arising from their varied experience in the use of the article. As a result his product to-day represents as great a development as that shown by the automobile as a whole.

Advance Always Expected.

It is seldom indeed that any design is in such perfect form when first presented to the public that further improvement cannot be made. It may have shown such good results in the first trials that the makers were justified in placing it on the market, and while it may at all times have given a good account of itself, yet as it goes through the fire of the real test its use on thousands of cars of scores or hundreds of different makes, under all possible conditions of service, it must, to hold its popularity, be so refined and improved that just complaints shall be, not different sizes or models for the varied conditions of service are usually required, and it is necessary also to make sure that the customer not only receives the proper size for his work, but that it shall be properly installed. The extra effort and expense this entails is an insurance against trouble that is well justified. Fortunately the average automobile designer is broad enough to realize that the necessary engineering from his experience in hundreds of installations, is in position to solve satisfactorily any problems that may arise in the mounting or use of his product. Here the accessory manufacturer who is a specialist in his line co-operates to the direct advantage of the design of the car as a whole.

Any product as it approaches perfection must not only improve in design, but also a better selection of materials must be made. If complete in design, but made of poor material, it is of no use. The standard of workmanship must be raised. If greater accuracy is practical, it is surprising the great number of little refinements that can be made in an article really good in the first place. An organization is devoting its entire effort to it and has the benefit of experience under all conditions of service on all weights and styles of cars.

Correct Every Weakness.

A line may be changed at one point to improve appearance; an oil channel or oil cup added to insure the proper lubrication at another point; a cover is added to exclude dust; one part of modified form is made to do the service of two or more used before; a dimension is increased, not because the part is really weak, but because there was an occasion when, under particularly trying circumstances, that part bent, and that dimension must henceforth be beyond question.

It is these little improvements that gradually build up an article until it is safe, durable and satisfactory under all conditions of service, until it can be placed on a car and practically forgotten because of the entire absence of trouble from that source. When an article is very satisfactory it is in demand, which tends toward volume of business. Production in very large quantities permits of special machines, which not only reduce costs, but also make for greater accuracy and more perfect interchangeability. Concentration on one article in the machine shop means constantly improved methods of doing work; special tools or dies are devised for operations which would not be justified if made in a smaller way. The workmen attain the greatest possible skill, as in many instances one man will continue constantly at one operation.

Standardization and quantity production naturally reduce costs from the rough store room to the final assembling. The parts maker has in this way been able to do his share in lowering the price of the complete automobile.

The successful manufacturer has not allowed himself to rest with perfecting his product or lowering his costs, but has built up a service department, which enables him to make replacements with the least possible delay.

Specializing has enabled the parts manufacturer to secure a permanent place for himself in the industry, and in making his product such that its use is a guarantee of the highest safety and efficiency. He has contributed no little share to the advancement of the industry as a whole.

AUTOMOBILES.

Established 1884 (77 years in business).
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a car it would prove an advantage to learn the mechanism of automobiles and how to properly operate same. Our facilities for teaching are the best. Day and evening classes; also private instruction. Call or write for Booklet.

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233 West 54th St. (Near Broadway & 54th St.)
"Founded on Honesty." "Progress on Merit."

Both Electric and Gasolene Wagons Widely Used in Delivery Work

UPHOLDS DRIVER'S
SEAT OVER MOTOR

A. L. Riker Contends for American
Practice as Giving Better
Load Distribution.

By A. L. Riker, of the Locomobile Company of America.

One of the most striking differences in American and foreign practice in the design of large capacity trucks is found in the location of the driver's seat. A large proportion of the American builders place the driver's seat above the motor, although some follow the European practice of placing it behind the motor.

While I will readily grant that there are certain cases in which it might be desirable to locate the driver behind the motor, as a matter of general practice the location of the driver's seat above the motor offers so many advantages that it makes the adoption of this location almost obligatory.

Advocates of the European design oppose the American design for two reasons. One objection they raise is that the driver loses both time and strength getting in and out of the seat. This objection might be reasonable if large capacity trucks were designed for short haul delivery service, but as they are essentially "long haul" vehicles there seems to be little basis for this attitude.

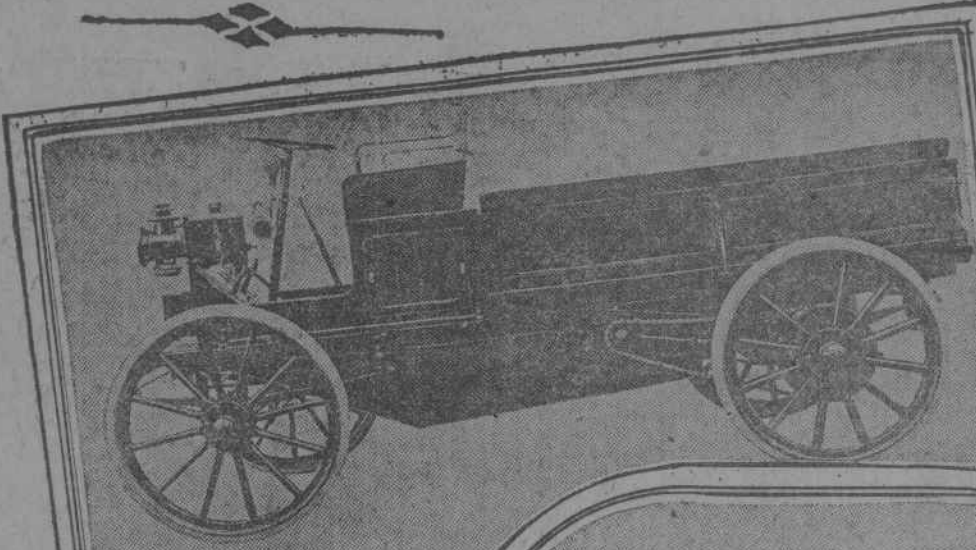
The other objection raised is that the American arrangement puts a smaller percentage of the capacity load weight on the rear wheels, the usual American practice being to carry about seventy per cent of the capacity load on the rear wheels, while the European practice ranges from eighty per cent to eighty-seven per cent.

This to my mind, instead of being a fault, is a great advantage, as it is possible to put too much weight on the rear wheels. Loading the rear wheels with more than their effective adhesive weight crushes the solid tires, compels the use of exceedingly heavy rear wheels, to avoid the "breakdown" effect of the load, does not put enough weight on the front wheels to give them enough traction for effective steering and produces unequal tire wear. The American type has an advantage over the European type from the viewpoint of the designer, the owner and the driver.

The designer finds that for a given capacity it is possible, by putting the driver's seat over the motor, to produce a truck with the maximum platform space for a minimum wheel base and to practically eliminate the "overhang." He also finds that he sacrifices a smaller percentage of the frame length to non-producing space and that the center of gravity can be located much nearer the center of length, reducing the tendency to skid. This design also permits him to distribute the weight of the loaded truck almost equally between the front and rear wheels.

The owner discovers that this style of truck is economical on three and wears them evenly, will show a larger number of ton miles per day owing to its compactness, offers a larger load carrying length in proportion to its overall length and takes up less room in the garage. He discovers that accidents due to skidding are much reduced.

The driver learns that his unobstructed view helps him to make time through congested traffic and reduces the possibility of accidents. He also learns that the short wheel base and the absence of overhang not only enable him to turn in a smaller space, but that they also enable him to manoeuvre more easily in backing into or coming out from a loading platform. The driver appreciates the fact that the compactness of this truck enables it to occupy less space at the loading platform, keeps the truck from protruding far into the street and thus reduces the danger of damage to wheels or radiator through collisions with passing vehicles.



REO POWER WAGON

Reo, Baker, Ward and Waverley Are
Some of Light Vehicles
Now in Favor.

Delivery wagons of from five hundred pounds capacity to fifteen hundred pounds capacity will be exhibited in large numbers at the Garden show. Both the electric and gasolene types have found favor with merchants.

Reo.
The Reo 1,500 pound delivery wagon is one of the most widely known of the light commercial vehicles. It has the regulation Reo chassis and various types of bodies can be utilized.

Waverley.
The Waverley Company will be represented by an electric three ton chassis, with a wheel base of 118 inches and length back of driver's seat of thirteen feet. The tires are 32x5 in front and 32x3 1/2 in rear. This truck chassis is rated at a speed of nine miles an hour loaded, with a mileage of thirty-five miles on one charge. The frame is made of channel steel, the members are hot riveted throughout and fitted with heavy gusset plates. The axles are drop forged alloy steel, the wheel pivots being ground and fitted with Timken roller bearings. Primary drive chains for this chassis are enclosed in metal cases fitted with hand plates that may be removed when desired. The front springs are semi-elliptic, while in the rear the platform type is used. There are two sets of brakes, one on the rear wheels and the other on the countershaft, both foot operated. The Waverley controller is of the continuous torque knife blade type, located under the driver's seat, fitted to a vertical lever.

There will also be a Waverley chassis with a carrying capacity of 2,500 pounds. This chassis has a 100 inch wheel base. In addition the Waverley Company will exhibit a complete 600 pound delivery wagon with a wheel base of eighty-seven inches.

REMOUNTABLE RIM
ASSURED SUCCESS

Mr. Rosett Urges Its Advantage as
Time Saving Device Proved
in Racing.

By M. Rosett, of the Doran Rim Company.

The day of experiments in remountable rims has long since passed, and this remarkable time saving device has now become one of the most important factors in car construction. Manufacturers have unhesitatingly proclaimed in its favor, especially since it has made good. They are recognized as a necessary integral part of the car—as necessary to the motor car service as the tires themselves; that is, remountable rims are here because they are necessary to complete the comfort of the users of a car—because they do away with the inconvenient and unpleasant delays, oftentimes costly to health or otherwise, by being held up an hour or more in a snowstorm, a driving rain or on a boiling hot day.

The remountable rim is a revelation of simplicity, efficiency and time saving, while the ease of operation has stamped the invention as one of the greatest in the automobile industry since the introduction of the gasolene engine. No up-to-date car is complete without a remountable rim, and while it saves time, avoids any unpleasant delays it shows a material saving on the upkeep of a car, which is an important consideration to car owners. The remountable rim has played an important part in racing, but, while the speed of the racing car has been increased to a remarkable extent, its great value is to the owners of pleasure cars. There is never any delay by tire trouble, the bugaboo of automobilists. This feature appeals strongly to the amateur motorist and enhances the delight of touring.

The remountable rim has become an absolute necessity, and one of its principal recommendations is the ease with which it is operated.

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BATAVIA, N. Y.

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THE HOLLEY COMPANY

105 WEST 40TH ST.,
New York City.

Auto Bodies

Estimates Submitted

PAINTING—REPAIRING

THE BLUE RIBBON

AUTO & CARRIAGE CO.

OF BRIDGEPORT, CONN.
1,777 Broadway, New York
PHONE, 6676-COL.

HIGH GRADE CARS
ALL IN DEMAND

Constant Increase in Business, Mr.
Wright Finds, Rewards Production
of Best Character.

By W. E. Wright, Vice President of the
Knox Automobile Company.

Every little while the cry goes up that the automobile business is on the wane and that the bottom is about to drop out of it, as it did in the bicycle industry.

But those who have studied the problem realize that the call for motor cars of the standard high grade quality is steadily increasing. The companies that have been in business since the early years of the industry and that have built up a reputation for honest values in high grade products find no difficulty in marketing all the cars their factories are capable of producing.

The demand for high grade cars will never grow less. Aside from the health and pleasure motoring affords, there is a strong economic reason which will always insure a liberal use of these time savers. This reason lies in the fact that the daily struggle is to enlarge the sphere of human activity—to do more that we may get more and live better.

The human race has waited many centuries for a swifter means of locomotion which will save time, and, as we say, "time is money." Thus it greatly enlarges our field of activity—the goal toward which we have always been striving. The motor car does this to such an extent that it is its province to be bought—to be purchased in constantly growing numbers, for nothing can approach in many years its tremendous advantages.

Attached to the rear of the truck is a plow which digs a deep furrow as the truck proceeds. While this operation is being performed the crew throws off the load.

"Three times as much pipe is laid in the course of a day as before the motor truck was pressed into duty. There is a gain in labor in hauling the pipe to the trenches, in unloading and in digging the ditches."

AUTOMOBILES.

"Little Bull Dog No. 4"

Tire Inflating Outfits

"Cannot Be Beaten."

Prices Reasonable.

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Air Receiver, high pressure;

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Small outfit for private use;

Larger ones for garages.

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Long-Stroke "32"—Five passenger Touring Car. Four cylinders, 34-inch bore, 5 1/2-inch stroke. Bosch magneto, 105-inch wheel base. Three speeds and reverse, sliding gears, 30x3 1/2-inch tires. Equipped with gas lamps and generator, three oil lamps, windshield, tools and burn—\$900 f. o. b. Detroit. Standard 20 H. P. Runabout—\$750. Roadster—\$850. Coupe—\$1,100.

You must go far above \$900 to find a car with which to compare the new Hupmobile Long-Stroke "32" Five-Passenger Touring Car. You must go far above \$900 to find equal value, equal efficiency and power, equal mechanical excellence. Because the new Hupmobile is no average \$900 car it has created for itself a much higher class.

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NEW RAMBLER BUILDINGS.

Announcement has been made by the
Thomas B. Jeffery Company that plans
have been completed and contracts let
for the erection of the new Ramblers sales and

service building in the new Back Bay district of Boston, fronting Commonwealth Avenue and Hinsdale and Cummington streets, while work has already been started on the big Rambler service building for Chicago.

The Boston building will be a four story fire proof structure. It will be 216 feet long, will have a frontage on Commonwealth Avenue and set back 121 feet, with the open space graded and laid out. This property has been leased for a term of twelve years at a rental of \$192,000.

The Rambler service building in Chicago will be one of the most complete in the United States. It is being erected at the northwest corner of Indiana Avenue and Twenty-third Street on a lot 150x125 feet. This property has been leased for a term of fifteen years at a rental of \$165,000.

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